

ENERGY EFFICIENT GAS SEPARATION FOR FUEL CELLS

ABSTRACT

An electrical current generating system is disclosed that includes a fuel cell operating at
5 a temperature of at least about 250°C (for example, a molten carbonate fuel cell or a solid oxide
fuel cell), a hydrogen gas separation system or oxygen gas delivery system that includes a
compressor or pump, and a drive system for the compressor or pump that includes means for
recovering energy from at least one of the hydrogen gas separation system, oxygen gas delivery
system, or heat of the fuel cell. The drive system could be a gas turbine system. The hydrogen
10 gas separation system or the oxygen gas delivery system may include a pressure swing
adsorption module.

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